WE CLAIM:

1. A method for reserving resources in a wireless network, said method comprising the steps of:

monitoring a resource to obtain a resource value;

estimating resources needed for radio dependent and radio independent layers based on said monitored resource value; and

reserving said needed resources at the radio dependent and radio independent layers based on said estimate.

2. The method of claim 1 wherein said monitoring step further includes the step of monitoring call arrivals, resource requirement, and resource usage.

3. The method of claim 2 further comprising the step of updating the rate at which said estimating is done if the difference in resource usage is greater than or equal to a pre–determined value.

4. The method in accordance with claim 3 wherein said step of estimating further includes the step of modeling the resources needed as a Wiener process.

5. The method in accordance with claim 3 said calls are handoff calls.

6. The method in accordance with claim 3 wherein said calls are new calls originating within a cell.

7. The method in accordance with claim 3 wherein said calls are handoff calls and new calls originating within a cell.

8. A method for reserving resources in a mobile wireless internet protocol network, said method comprising the steps at a base station of:

monitoring call arrivals and resource requirements;

responsive to said monitoring, estimating the radio dependent and radio independent resources required; and

6   instructing radio independent and radio dependent layers to reserve the
7   estimated resources for future calls.

1   9. The method in accordance with claim 8 wherein said estimating step
2   resides at a radio- independent layer of the internet protocol.

1   10. The method in accordance with claim 8 further comprising increasing the
2   rate of said monitoring step if the difference in resource usage is greater than or
3   equal to a threshold value.

1   11. The method in accordance with claim 10 wherein said estimating step
2   comprises Wiener process-based stochastic models.

1   12. The method in accordance with claim 11 wherein said estimating step
2   resides at a radio-independent layer of the internet protocol.

1   13. The method of claim 12 wherein said calls are handoff calls.

1   14. The method in accordance with claim 12 wherein said calls are new calls
2   originating within a cell.

1   15. The method in accordance with claim 12 wherein said calls are handoff
2   calls and new calls originating within a cell.

1   16. The method in accordance with claim 8 wherein said step of monitoring
2   monitors instantaneous values of handoff call arrivals and resource requirements.

1   17. The method in accordance with claim 8 wherein said instructing step
2   causes reservation of both radio resources and internet protocol layer resources.

1   18. The method in accordance with claim 17 wherein said estimating step is
2   based on a stochastic model.